

Work Order ID 111764

\*111764\*

Page 1

January-21-14 12:54:52 PM

Item ID: D212-664-201

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Aft Crosstube - High

Start Date: 1/21/14 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 1/21/14 Req'd Qty: 1.00 \*1\*

Customer:

Reference: RA111652 - inspect

Approvals: Process Plan:  Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D212-664-241	Rev D (DEO)
DSI9563	B

150 QC5- Inspect part completeness to step on W/O 0.00

\*150\*

QC

Quality Control

Memo  
INSPECT RA111652

0.00

DA.  
16  
9-8 14/01/21

CREATE INSPECTION SHEET, AS CUSTOMER SUSPECTS THS  
CROSSTUBE HAS SPREAD BEYOND LIMITS ACCORDING TO ICA-D212-664-REV.8  
SECTION 5.

270 Packaging 0.00

\*270\*


Packaging

Packaging

Packaging

Memo  
REPACKAGE PER PPP USING ORIGINAL B/N  
SEE PAT SMITH FOR PAPERWORK IF REQ'D

0.00

 14-01-24



**Work Order ID 111764****\*111764\***

Page 2

January-21-14 12:54:52 PM

Item ID: D212-664-201

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Aft Crosstube - High

Start Date: 1/21/14 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 1/21/14 Req'd Qty: 1.00

**\*1\***

Customer:

Reference: RA111652 - inspect

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

**\*280\***

QC

Quality Control

Memo

~~CLOSE W/O AT 0~~

0.00

1

0

0

DAS  
29  
9-89

1x 15483

W 14.01.24

# Picklist Print

January-21-14 12:54:52 PM

Page 1

Work Order ID: 111764

Parent Item: D212-664-201

Start Date: 1/21/14

Required Date: 1/21/14

Parent Item Name: Aft Crosstube - High

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:E04.02.16ReformatK/DS  
IPP Rev:F 06-03-29 Remove Coments on Pick List JLM  
IPP Rev:G 07-04-30 As per Rev C JLM  
IPP Rev:H 08-05-22 up date Qty of rubber cushion DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D212-664-201		Manufactured	No				Each	11.0000		1			
Aft Crosstube - High													

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	2	
100942	1	
102501	1	
FG112	9	
105849	1	
105872	1	
106165	1	
108251	1	
109316	1	
109317	1	
109318	1	
109319	1	
109320	1	

15483 17  
RA111652

u 14.01.23



1270 Aberdeen Street  
Hawkesbury, Ontario K6A 1K7

## RETURN AUTHORIZATION

Date: 20-Nov-13  
Customer Name: New York State Police  
Customer Code: CNEWY01  
Telephone No:  
E-mail Address: summitparts@rbnet.com  
Contact Name: Riachard Day  
Issued by: Marc Bellavance

DART RA Number: RA111652  
Customer-Supplied: ☒ Trial/Test ☐  
Sales Order Generated:  
OEM Initiated & Chase:  
Approved by: Sian Willems  
DART Invoice #:  
PAR/CAR/NCR/SQ:

Quantity	Part Number	Description	Batch Number
1	D212-664-201	Crosstube, High, Aft	B15483

**CUSTOMER-SUPPLIER**

ning part for inspection purposes as he  
ad over limits. Refinish if still airworthy.  
through Richard Day.

Commercial Invoice Yes  
Documentation (STC/ARC/ICA) Yes  
Packing Slip Yes

Include on Commercial Invoice:  
Part Number/Description/Value in USD  
Parts are aircraft parts/return to Manufacturer

Prepaid Yes Collect Courier

### RECEIVING RETURN AUTHORIZATION

Receiver: <i>[Signature]</i>			Condition of Packaging:		Photograph Required	
Date Received: 13/12/13			Freight Company:		Yes No	
Quantity	Part Number	Batch	QC Verification		Disposition	
1	D212-664-201	B15483			111764	
<del>D212-664-201</del>			<del>B15483</del>		<del>111764</del>	

QC Inspector: <i>SMB</i>	Photograph Attached	Condition:					
Date: 13-12-20	Yes No	Sealed	Complete	Short H/W	Short Kit	No P/W	Damaged

QC Comments: Special Return/Rework Instructions:  
Inspect part IAW ICA-D212-664. Refinish and  
ship back to NYSPA if still airworthy. Confirm scrapping  
of crosstube with NYSPA is non

Issue Credit: Yes No

Credit Invoice Amount: \$0.00 ✓

Approval: \_\_\_\_\_ Date: \_\_\_\_\_

Restocking Fee: \_\_\_\_\_

Freight: \_\_\_\_\_

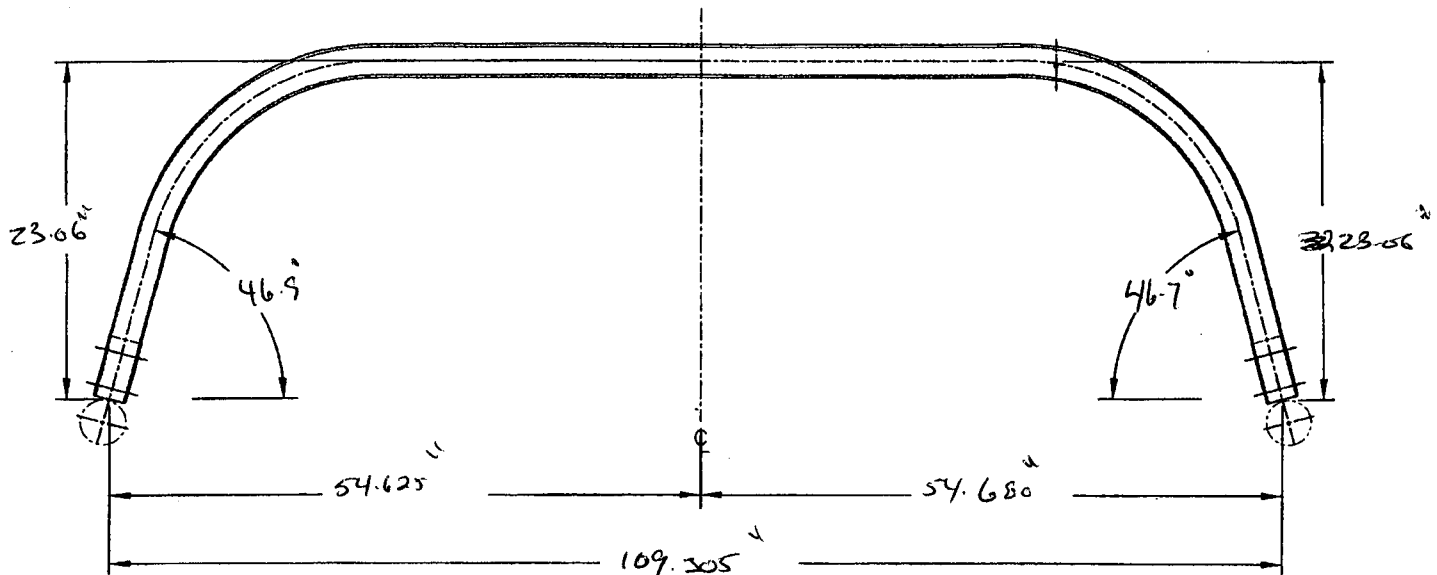
Net Credit: \_\_\_\_\_

Closed by: \_\_\_\_\_ Close Date: \_\_\_\_\_

Receive ✓  
Inspect ✓ > Accept Qty.

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	
<b>Description:</b> Crosstube High Aft (205/212)		<b>Part Number:</b>	<b>D212-664-201</b>
<b>Inspection Dwg:</b> D212-664-241 <b>Rev:</b> D			<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70
Bending Passes	5	--
Crushing	--	6%



	Side A	Side B
Bending Passes	n/a	n/a
Crushing		
Comments		
RA 11/652		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM	
C	10.04.01	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	

# Outside Service/Repair Order

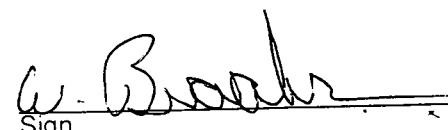
R/O No.: **6436**

From:  
**SUMMIT HELICOPTERS, INC.**  
 595 Cougar Drive  
 Cloverdale, VA 24077  
 Phone: 540-992-5500 Fax: 540-992-5503

Repair Vendor:  
**DART AEROSPACE Ltd.**  
 1270 ABERDEEN ST  
 HAWKESBURY, ON K6A 1K7 CANADA  
 Phone: 613-632-3336 Fax: 613-632-4443

Item	Qty	Part Number	Serial No.	Description	Hours	Cycles
1	1	D212-664-201	915483	DART LANDING GEAR	0.00	0.00
Reason for Removal: SUSPECTED SPREADING OF CROSSTUBE						
Work to be Carried Out: INSPECT FOR SPREADING AND CRACKS						
Ref: NYSP						

143 LBS  
 121X33X13

Ship To: SUMMIT HELICOPTERS, INC 595 COUGAR DRIVE P.O. BOX 39 CLOVERDALE, VA 24077 Phone: 540-992-5500 Fax: 540-591-5890	Bill To: SUMMIT HELICOPTERS, INC 595 COUGAR DRIVE P.O. BOX 39 CLOVERDALE, VA 24077 Phone: 540-992-5500 Fax: 540-591-5890	Comments: PLEASE CALL RICHARD DAY WITH QUOTE ON INSPECTION FOR SPREADING AND CRACKS
Date: 12/12/13 <div style="float: right;">                     SUMMIT HELICOPTERS, INC.                      Inspection Department                        Sign                 </div>		

COMPONENT NAME AFT HIGH CROSS TUBE (DART)  
PART NUMBER D212-664-201  
SERIAL NUMBER B15483  
PAGE \_\_\_\_\_ OF \_\_\_\_\_

# COMMERCIAL HISTORICAL SERVICE RECORD

[illegible]



# COMMERCIAL INVOICE

(Please complete in English print)

INTERNATIONAL AIR WAYBILL NO.

(NOTE: All shipments must be accompanied by a  
FedEx International Air Waybill & two duplicate copies of CI.)

DATE OF EXPORTATION

12/16/2013

SHIPPER'S EXPORT REFERENCES

(i.e., order no., invoice no.)

**SHIPPER / EXPORTER** (complete name, address, telephone, Business  
Registration No./ Customs / Tax ID No. e.g. GST / RFC / VAT / IN / EIN / ABN /  
SSN, or as locally required )

SUMMIT HELICOPTERS, INC.  
595 COUGAR DRIVE ( P O BOX 39)  
CLOVERDALE, VA 24077  
540-992-5500  
FIN: 54-1156923

**CONSIGNEE** (complete name, address, telephone, Business Registration  
No./ Customs / Tax ID No. e.g. GST / RFC / VAT / IN / EIN / ABN / SSN, or as  
locally required)

DART AEROSPACE LTD  
1270 ABERDEEN STREET  
HAWKESBURY, ON K6A 1K7  
CANADA  
613-632-3336

COUNTRY OF EXPORT

U S A

**IMPORTER - IF OTHER THAN CONSIGNEE**

(complete name, address and telephone)

**REASON FOR EXPORT**

(e.g. personal gift, return for repair)

Item being shipped for repair and  
will be returned to shipper.

**COUNTRY OF ULTIMATE DESTINATION**

COUNTRY OF ORIGIN	MARKS/ NO'S.	NO. OF PKGS	TYPE OF PACKAGING	FULL DESCRIPTION OF GOODS <small>What is it? What is it made of? What is it used for? What is it a component of? e.g.) Ladies' 100% Silk Knitted Blouse.</small>	HS CODE	QTY.	UNIT OF MEASURE <small>e.g. pieces, units, set.</small>	WEIGHT <small>lb / kg</small>	UNIT VALUE <small>currency</small>	TOTAL VALUE
USA		1	CRATE	Helicopter landing gear crosstube		1	EA	150	\$ 5,500	
		<b>TOTAL PKGS</b>						<b>TOTAL WEIGHT</b>	<b>CURRENCY</b>	<b>TOTAL INVOICE VALUE</b>
		1						150	\$5,500	\$5,500

I DECLARE ALL THE INFORMATION CONTAINED IN THE INVOICE TO BE TRUE AND CORRECT.

SIGNATURE OF SHIPPER/EXPORTER

Debra Hale

Clerk

5/16/2013

NAME (PLEASE PRINT)

TITLE (PLEASE PRINT)

DATE

Payment Method

☐ L/C  
☐ T/T  
☐ Others

Check if applicable

Check one

☐ F.O.B.  
☐ C & F  
☐ C.I.F.

**CHAPTER 5 – INSPECTION REQUIREMENTS (05-00-00)**

Inspection requirements for Dart D212-664-XXX and D412-664-XXX crosstubes are summarized below.

Crosstube	Inspection Requirement
D212-664-101/-107/-201/-207 D412-664-105/-205/-209	5.1 Daily Inspection 5.3 300 Hour Inspection 5.4 2 Year Inspection 5.6 Hard Landing Inspection
D412-664-203	5.1 Daily Inspection 5.3 300 Hour Inspection 5.4 2 Year Inspection 5.5 7500 Landings Inspection 5.6 Hard Landing Inspection

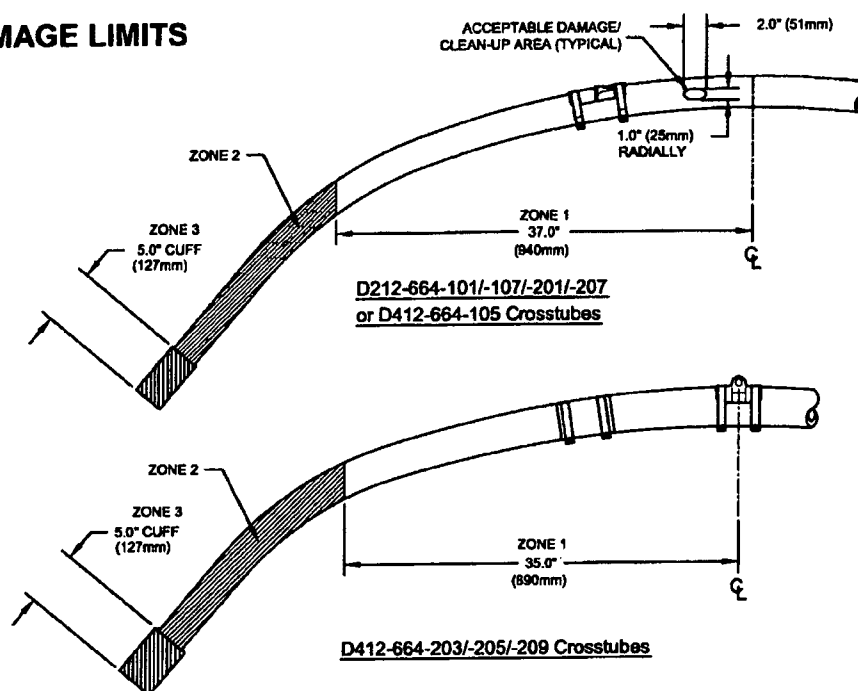
**Figure 5-1: Inspection Requirements Summary**

**5.1 DAILY INSPECTION**

- 5.1.1 Inspect the landing gear assembly for
- a) Mechanical damage (scratches, nicks) and corrosion damage on crosstube
  - b) Elongation of any of the saddle holes
  - c) Cracked saddles or supports
  - d) Break in sealant around the saddles or supports
  - e) Corrosion damage in the vicinity of the saddles or supports
  - f) Looseness in the saddle joint
  - g) Moving or slipping of the supports

If damage or slipping found, perform the 300 hour inspection and repair.

## 5.2 DAMAGE LIMITS



Maximum Nick, Scratch, or Corrosion Damage Depth Limit			
Damage Zone	3	2	1
D212-664-101/-107 High/Std. Fwd Crosstube	0.030" (0.76mm)	0.012" (0.30mm)	0.015" (0.38mm)
D412-664-105 Low-Narrow Fwd Crosstube	0.030" (0.76mm)	0.015" (0.38mm)	0.015" (0.38mm)
D212-664-201/-207 High/Std. Aft Crosstube	0.038" (0.97mm)	0.015" (0.38mm)	0.015" (0.38mm)
D412-664-203/-209 High/Std. Aft Crosstube	0.038" (0.97mm)	0.012" (0.30mm)	0.015" (0.38mm)
D412-664-205 Low-Narrow Aft Crosstube	0.038" (0.97mm)	0.015" (0.38mm)	0.015" (0.38mm)

**Figure 5-2: Acceptable Crosstube Damage Limits**

## 5.3 300 HOUR INSPECTION

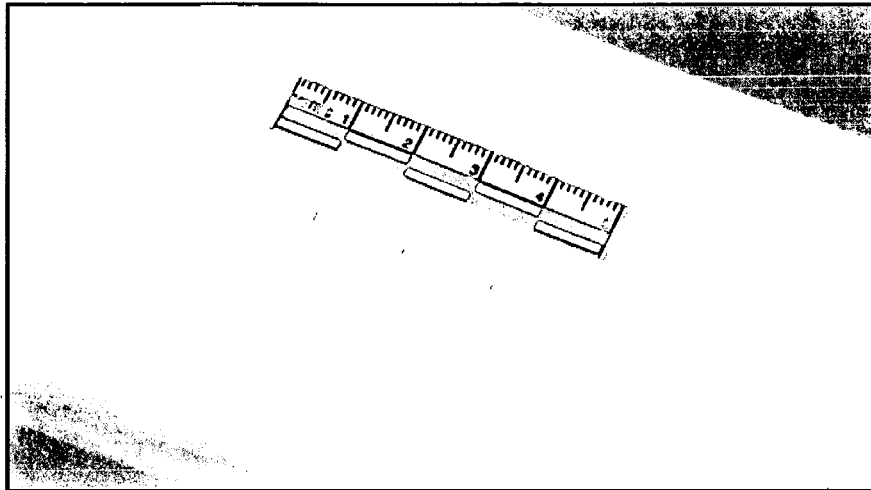
To be performed every 300 hours or if damage found on daily inspection.

**Note:** For the convenience of scheduling maintenance, the tolerance for scheduled inspection intervals is +/-10% (+/- 30 hours). In each case, the subsequent interval will be adjusted to re-establish the original schedule. When an inspection is done more than 10% early, subsequent inspections will be advanced as required not to exceed the maximum tolerance. Concurrence and final approval of inspection interval tolerance by the governing civil aviation authority is the responsibility of the owner/operator.

5.3.1 Inspect all visible areas of the crosstube for cracks. The bottom side of the crosstube should be inspected for cracks using a 10X magnifying glass with weight on the landing gear. If a pattern is observed that resembles the crack pattern shown in Figure 5-3 below, an LPI inspection should be performed as outlined in section 5.5. Cracks in the crosstube are

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unacceptable anywhere. Replace per item 5.3.10. If the LPI reveals that the crosstube is not cracked, it should be re-finished per item 5.3.9 and re-installed per Section 32.2.

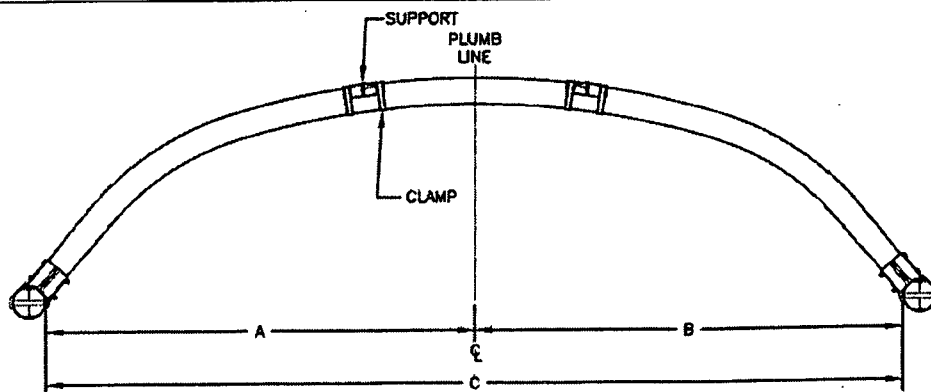


**Figure 5-3: Crack pattern**

- 5.3.2 All visible areas of the crosstube should be inspected for mechanical damage (nicks and scratches) and corrosion. Maximum size of acceptable nicks, scratches, or corrosion is limited to a 1.0" wide X 2.0" long (25mm wide X 51mm long) area. The maximum depth of any nicks, scratches, or corrosion is given in Figure 5-2. Repairs are limited to two at any cross-section with a minimum distance of 3.0" (76mm) between any other repairs. Repair any acceptable damage per item 5.3.3. Replace crosstube per item 5.3.10 if these limits are exceeded.
- 5.3.3 For damage within the acceptable limits, blend out scratches/nicks/corrosion in the crosstube in the longitudinal direction using scotchbrite. There should be a smooth transition from the surrounding tube to the affected area. CIRCUMFERENTIAL GRIND MARKS ARE NOT ALLOWED. The repaired area should have a surface roughness of 63 Ra or better. Clean up cannot exceed the damage limits. After clean up, touch up affected area with chemical film material (Alodine 1200 or 1201) per MIL-C-5541, one coat of MIL-P-85582 or MIL-P-23377 primer, and 2-3 coats of MIL-C-85285 polyurethane paint to match original finish. Repairs are lifetime accumulated and both the location and depth of the repair must be logged. If the accumulated repairs exceed the limits given in item 5.3.2, replace crosstube per item 5.3.10.
- 5.3.4 Inspect the supports for cracks, scratches, nicks, wear, and corrosion damage. Cracks in the supports are unacceptable. Polish out scratches, nicks, wear, and corrosion up to 0.020" (0.508mm) deep using scotchbrite to a maximum depth of 0.020" (0.508mm) after clean-up. Replace parts that have been damaged beyond the above limits per item 5.3.10. The area of the repair is limited to 1.00 in<sup>2</sup> (645mm<sup>2</sup>) and the maximum number of repairs per support is two. Touch up affected areas with two coats of MIL-P-85582 or MIL-P-23377 primer and 2-3 coats of MIL-C-85285 polyurethane paint to match original finish.
- 5.3.5 Inspect the supports for evidence of moving, slipping, or fretting. The supports should be positioned on the crosstubes as shown in Figures 32-2 through 32-9 and/or Figure 32-11. If the supports have shifted, they should be re-installed per Section 32.4 or 32.5. Check that the torque on the attachment clamps is between 80-100 in·lb (9.0-11.3 Nm) per section 32.4. It is optional to reseal the edges of the supports with Sikaflex-241/291 or MIL-S-8802 Class B2 or Proseal 890 sealant.

- 5.3.6 Inspect the MS21920 clamps and D3189-1/-3 chafing shields for nicks, scratches, or corrosion damage. Scratches, nicks, or corrosion damage deeper than 0.005" (0.127mm) requires part replacement per item 5.3.10.
- 5.3.7 Check OEM rubber bumper pad on the crosstube retention caps for looseness or deterioration and replace as necessary per the Aircraft Maintenance Manual. Alternately, if the D412-664-301 Cap Assembly Rubber Bumper Kit has been installed, inspect the D4381-1 Rubber Bumpers for cracks, looseness, and deterioration and replace as necessary per item 5.3.10. Inspect the rubber cushions on the support clamps for deterioration and suitability for continued service. Inspect the D2856-XXX abrasion strips, if present (only installed on early CHG # crosstubes without bonded supports or chafing shields), for deterioration and suitability for continued service. Replace as necessary per item 5.3.10.
- 5.3.8 Check the crosstubes for excessive deflection as follows:
- Position the aircraft on a smooth surface.
  - Raise the aircraft, removing all weight from the landing gear.
  - Level the aircraft laterally.
  - Measure distance between crosstube support fittings and divide the distance to determine aircraft centerline, as shown in Figure 5-4.
  - Drop a plumb line from the aircraft centerline to ground or floor surface. Measure dimensions A, B, and C as shown in Figure 5-4 to ensure that they are within the limits of Figure 5-4. Measurements are taken from the innermost edge of the skidtube to either the plumb line (A and B) or to the opposite skidtube edge (C). Crosstubes that have deflected beyond limits must be replaced per item 5.3.10.

Part Number	Dimension	Spread Limits (inches)	Spread Limits (mm)
D212-664-101/-201 and D412-664-203	A	55.0 max	1397 max
	B	55.0 max	1397 max
	C	110.0 max	2794 max
D212-664-107/-207 and D412-664-209	A	50.0 max	1270 max
	B	50.0 max	1270 max
	C	100.0 max	2540 max
D412-664-105	A	47.5 max	1206 max
	B	47.5 max	1206 max
	C	94.9 max	2412 max
D412-664-205	A	47.0 max	1195 max
	B	47.0 max	1195 max
	C	93.9 max	2385 max



**Figure 5-4: Crosstube Damage Limits**

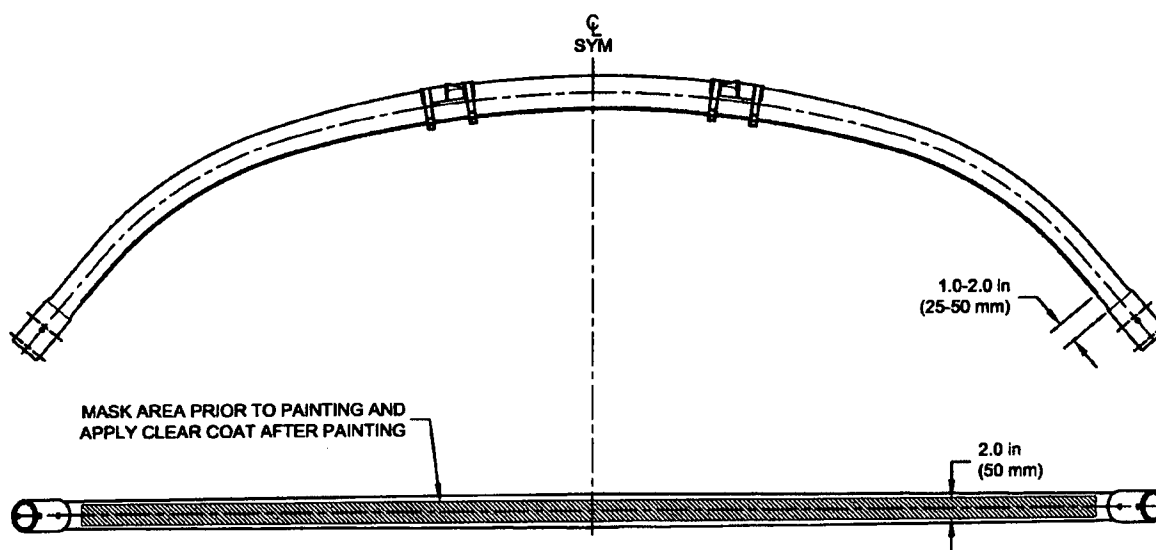
(Typical D212-664-101/-107/-201/-207 or D412-664-105 crosstube shown, D412-664-203/-205/-209 similar)

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- 5.3.9 Inspect all areas of the crosstube for suitability of the paint finish. Touch up affected areas with chemical film material (Alodine 1200 or 1201) per MIL-C-5541, one coat of MIL-P-85582 or MIL-P-23377 primer, and 2-3 coats of MIL-C-85285 polyurethane paint to match original finish.

For D212-664-101/-201 and D412-664-203 High Gear Crosstubes that are being refinished, an inspection window should be incorporated into the underside of the crosstube to facilitate inspection as follows:

- 1) Apply chemical conversion film material (Alodine 1200 or 1201) per MIL-C-5541 and one coat of MIL-P-85582 or MIL-P-23377 primer.
- 2) Mask underside of crosstube as per hatched area shown in Figure 5-5.
- 3) Paint outside surfaces of crosstube by applying 2-3 coats of MIL-C-85285 polyurethane paint to match original finish.
- 4) Apply clear coat on inspection window (hatched area).



**Figure 5-5: Inspection Window on D212-664-101/-201 & D412-664-203 Crosstubes**  
(D212-664-101/-201 Crosstube shown, D412-664-203 Crosstube similar)

- 5.3.10 Replace all excessively damaged or unserviceable parts per Chapter 32 of these instructions.
- 5.3.11 If the D212-664-101/-107/-201/-207 crosstubes are installed on the 214B/B-1 aircraft, ensure the D3428-1 Placard is legible and installed in clear view of the pilot.
- 5.3.12 If the hole has been drilled in the D212-664-101 crosstube for the Bell electric step, inspect for a proper seal. Clean and reseal the hole as required with Sikaflex-241/-291 or MIL-S-8802 Class B2 or Proseal 890.

## 5.4 2 YEAR INSPECTION

To be performed every 2 years.

- 5.4.1 Remove the landing gear from the aircraft per section 32.1.
- 5.4.2 For crosstubes equipped with Dart skidtubes, remove the skidtube from the crosstubes by removing (2) AN6 bolts per cuff and relaxing the torque on (8) AN4 flange bolts per cuff. Inspect saddle hardware for damage and replace as necessary per STC SH96-88 (ref. FAA STC SR00563NY).
- 5.4.3 For crosstubes equipped with Bell/AA skidtubes, remove the skidtube from the crosstubes by removing (3) AN6 bolts per cuff. Inspect saddle hardware for damage and replace in accordance with Aircraft Maintenance Manual.
- 5.4.4 Inspect the attachment holes in cuff of the crosstube for elongation. The maximum allowable hole elongation is 0.025" (0.634 mm) at any hole. Inspect the cuff beneath the saddle for mechanical damage and corrosion. Maximum size of acceptable nicks, scratches, or corrosion is limited to a 1.0" wide X 2.0" long (25mm wide X 51mm long) area. The maximum depth of any nicks, scratches, or corrosion is given in Figure 5-2. Repairs are limited to two at any cross-section with a minimum distance of 3.0" (76mm) between any other repairs and only one fastener hole per cuff can be affected. Repair damage within acceptable limits per item 5.3.3 of the 300 hour inspection, or replace per item 5.3.10 of the 300 hour inspection.
- 5.4.5 Remove the MS21920-XX clamps securing the supports to the crosstube. Inspect the area of the crosstube opposite to the supports as outlined in Section 5.3.1. Apply pressure to supports and ensure that they are not shifting, there is no evidence of corrosion and that there is no deterioration/breaking of the adhesive securing the supports to the crosstube. If the supports are shifting, the sealant is breaking, or there is evidence of corrosion near the supports, remove the supports from the crosstube per section 32.3 and remove abrasion strips per section 32.8. Check for corrosion and mechanical damage per items 5.3.1 and 5.3.2 of the 300 hour inspection. Repair damage within acceptable limits per item 5.3.3 of the 300 hour inspection, or replace per item 5.3.10 of the 300 hour inspection. Reinstall the supports per section 32.4 or 32.5.

If the supports are not shifting, the sealant is not breaking, and there is no evidence of corrosion near the supports, re-install MS21920-XX clamps per section 32.4.5 or 32.5.4.

- 5.4.6 Reinstall landing gear on the aircraft per section 32.2.

## 5.5 7500 LANDINGS INSPECTION (D412-664-203 ONLY)

To be performed on D412-664-203 crosstube at 7500 landings. If the number of landings is unknown, the number of landings should be calculated based on 10 landings per flight hour since installation in lieu of a more rational method for calculating landing cycles.

- 5.5.1 Remove the landing gear from the aircraft per section 32.1.
- 5.5.2 For crosstubes equipped with Dart skidtubes, remove the skidtube from the crosstubes by removing (2) AN6 bolts per cuff and relaxing the torque on (8) AN4 flange bolts per cuff. Inspect saddle hardware for damage and replace as necessary per STC SH96-88 (ref. FAA STC SR00563NY).
- 5.5.3 For crosstubes equipped with Bell/AA skidtubes, remove the skidtube from the crosstubes by removing (3) AN6 bolts per cuff. Inspect saddle hardware for damage and replace in accordance with Aircraft Maintenance Manual.

- 5.5.4 Remove paint finish using MIL-R-81294 Type I or II chemical paint remover per manufacturer's instructions. Using brush and water, rinse paint from tube. Use scotchbrite pad and additional chemical paint remover as required. Brush and scotchbrite pads should be used in the longitudinal direction in a manner to not abrade the metal surface. CIRCUMFERENTIAL MARKS ARE NOT ALLOWED. Rinse the crosstube thoroughly with water.
- 5.5.5 Inspect crosstube using Liquid Penetrant Inspection (LPI) per ASTM 1417 Level 2. Cracks in the crosstube are unacceptable anywhere. Pay particular attention to the lower side of the crosstube near the middle support (ref. Figure 5-2: Zone 1) and view under 3-5x magnification. If the crosstube is found to be cracked, it should be replaced immediately per Chapter 32 of these instructions.
- 5.5.6 Refinish crosstube per item 5.3.9 of these instructions.
- 5.5.7 Reinstall landing gear on the aircraft per section 32.2.

## **5.6 HARD LANDING INSPECTION**

- 5.6.1 Perform 300 hour inspection per section 5.3
- 5.6.2 Perform 2 year inspection per section 5.4
- 5.6.3 For D412-664-203 crosstubes, perform a liquid penetrant inspection per section 5.5.

## **5.7 OVERHAUL REQUIREMENTS**

**NO COMPONENT OVERHAUL REQUIRED FOR THIS DESIGN CHANGE.**



**CHAPTER 11 – PLACARDS AND MARKINGS (11-00-00)**

The following placard is applicable to this installation.

D3428-1 Placard: Located in Clear view of pilot when Dart D212-664-101/-107/-201/-207 crosstubes installed on Bell 214B/B-1 aircraft.

MAX. TAKEOFF/LANDING WEIGHT LIMITED TO 11,900 LB  
AND LONGITUDINAL C OF G LIMITS CHANGED  
ABOVE 10,450 LB WHEN DART LANDING GEAR INSTALLED.  
SEE FMS-D214-664

D3428-1

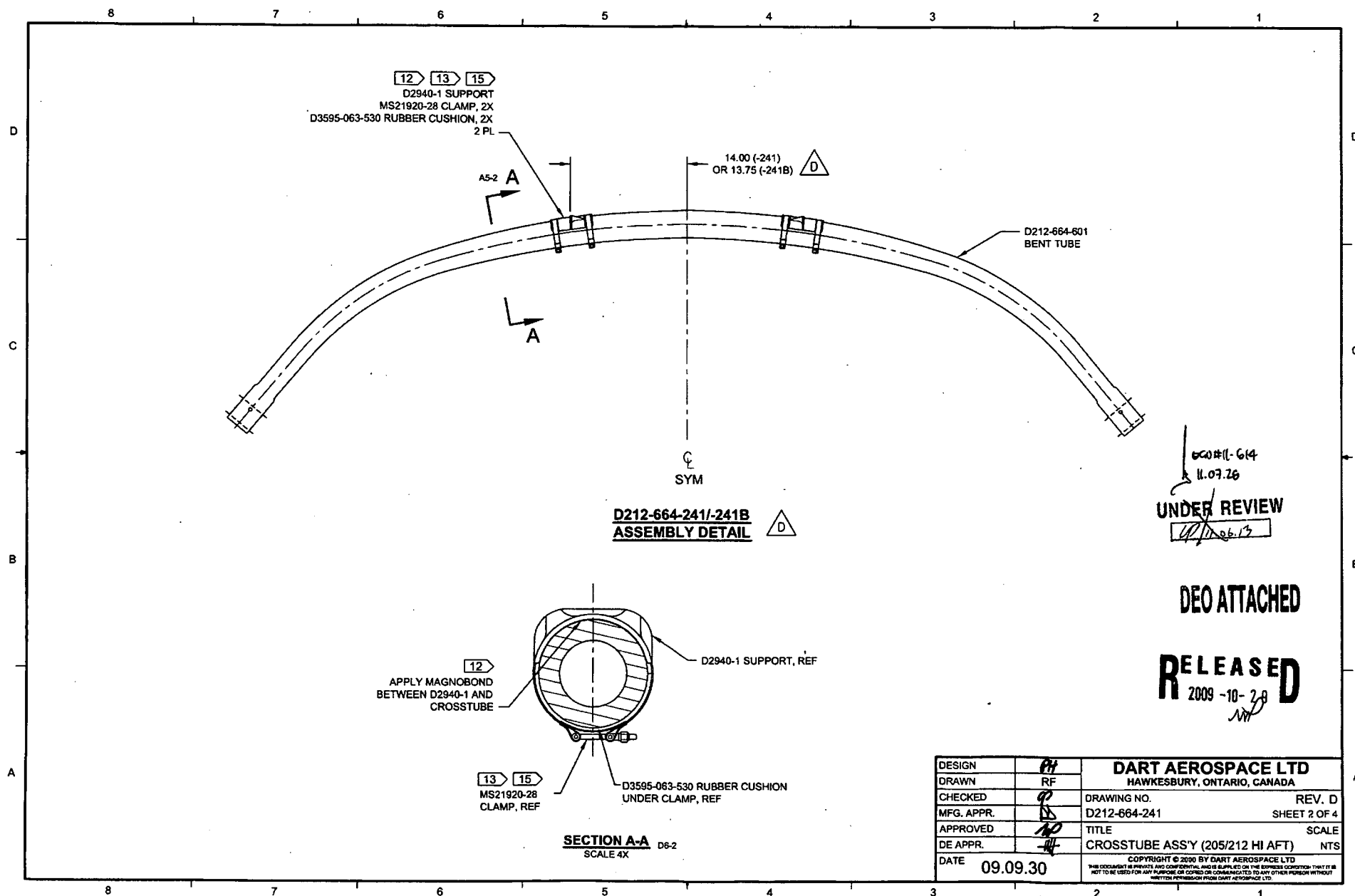
Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

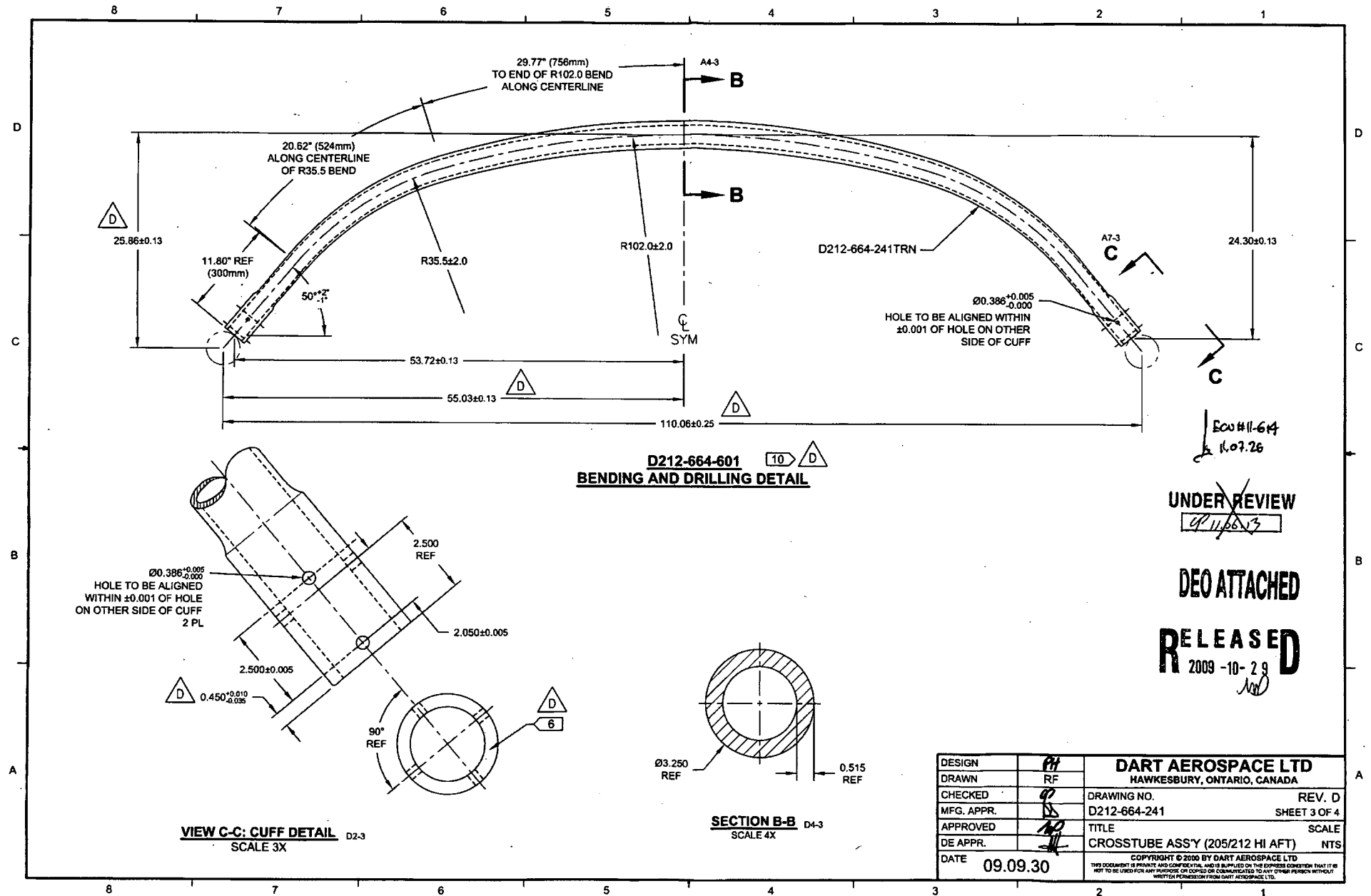
#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129  
FINISHED LENGTH = 124.362±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF  
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)  
D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING  
IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE  
OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS  
AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1  
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE  
SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE  
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR  
DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND  
MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT  
HAS NOT BOTTOMED-OUT AFTER TORQUING.

600 #11-614  
11.08.25  
**UNDER REVIEW**  
11/08/13  
**DEO ATTACHED**  
**RELEASED**  
2009-10-29

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. D
CHECKED	PH	D212-664-241	SHEET 1 OF 4
MFG. APPR.	PH	TITLE	SCALE
APPROVED	PH	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DE APPR.	PH	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.09.30		

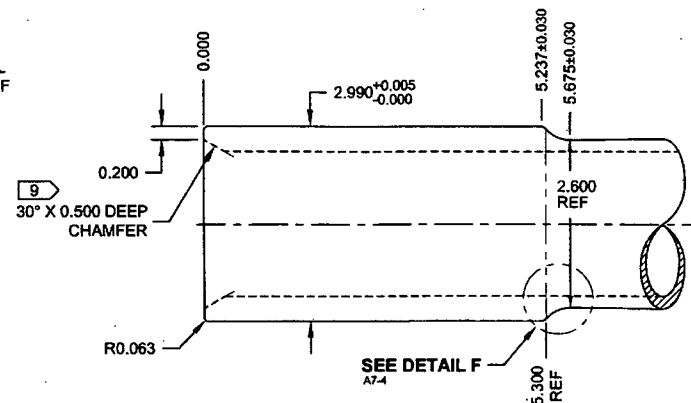
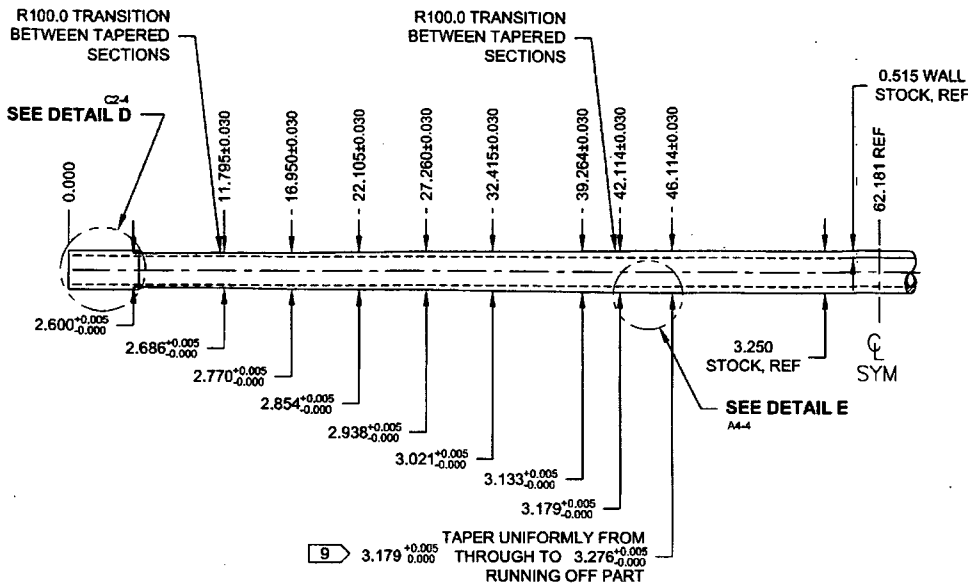




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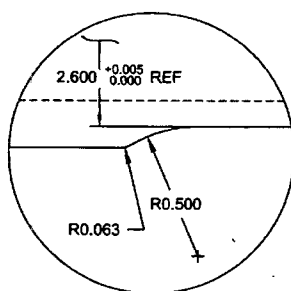
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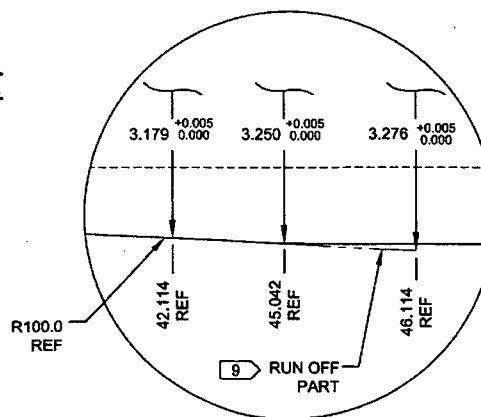


**DETAIL D:**  
**CROSSTUBE CUFF** D6-4  
SCALE 5X

**D212-664-241TRN**  
**TURNING DETAIL**



**DETAIL F:**  
**CUFF TRANSITION** C2-4  
SCALE 10X



**DETAIL E:**  
**TAPER RUN-OFF** C5-4  
NOT TO SCALE

200811-614  
11.07.28  
**UNDER REVIEW**  
02.10.13

**DEO ATTACHED**

**RELEASED**  
2009-10-29

DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. D
MFG. APPR.	AS	D212-664-241	SHEET 4 OF 4
APPROVED	AP	TITLE	SCALE
DE APPR.	TH	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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DRAWING NO. D212-664-241	TITLE CROSSTUBE ASSY (205/212 HI AFT)	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D212-664-241-D-1	SHEET NO. SHEET 1 OF 2	SCALE NTS
DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.			
DATE 11.04.07	DATE 11.04.11	DATE 11.04.12	DATE 11/04/12	DATE 11.04.12			

**PURPOSE:**

ADD AN INSPECTION WINDOW TO UNDERSIDE OF CROSSTUBE.

**CHANGE:**

NOTES 2 OF SHEET 1 IS AMENDED AS FOLLOWS:

**IS:**

- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA) AND  
PAINT OUTSIDE PER DART QSI 005 4.2  
REMOVE MASKING AND APPLY CLEAR COAT

**WAS:**

- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2

**RELEASED**  
2011-04-18  
JM

**UNDER REVIEW**

CP 11.18.13

ECN 11-614

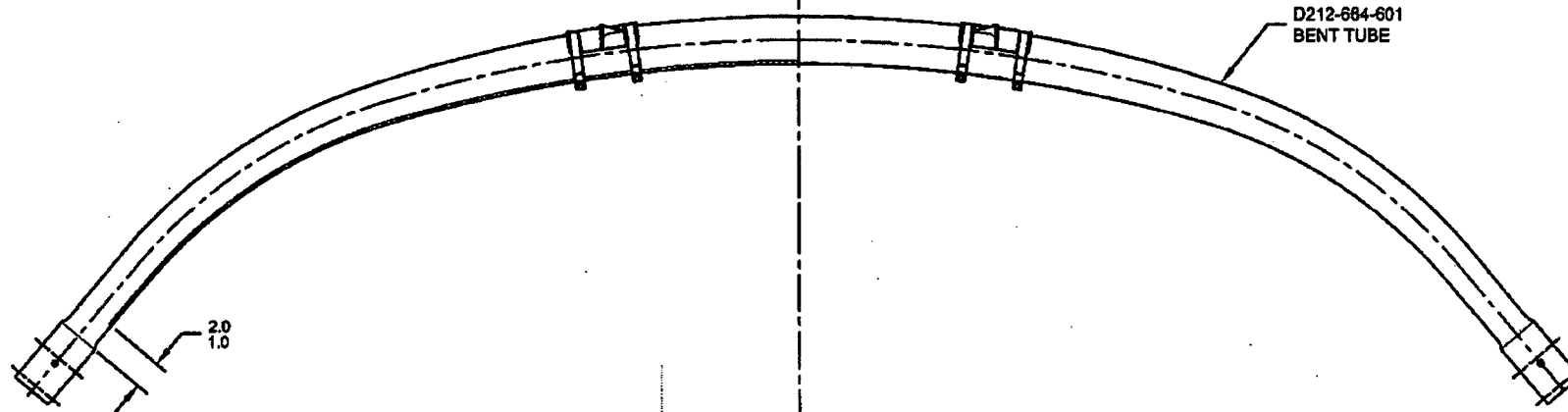
2 11.07.20

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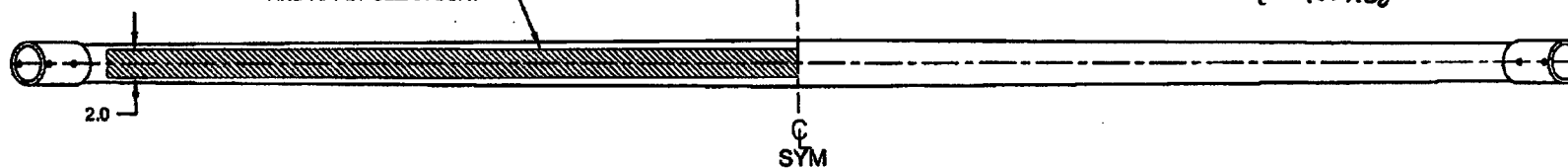
DRAWING NO. D212-664-241	TITLE CROSSTUBE ASSY (205/212 HI AFT)	REV. D	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D212-664-241-D-1	SHEET NO. SHEET 2 OF 2	SCALE NTS
DRAWN	CHECKED <i>UP</i>	MFG. APPR. <i>E</i>	APPROVED <i>MD</i>	DE APPR. <i>MD</i>		
DATE 11.04.07	DATE 11.04.11	DATE 11.04.12	DATE 11/04/12	DATE 11.04.12		

**IS:**



**D212-664-241/-241B  
ASSEMBLY DETAIL**

MASK AREA PRIOR TO PAINTING,  
REMOVE MASKING AFTER PAINT  
AND APPLY CLEAR COAT



**RELEASED**  
2011-04-18

**UNDER REVIEW**

*UP* 11.06.13  
11.07.28

DRAWING NO. D212-664-241	TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	REV. D	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>		D.E.O. NO. D212-664-241-D-2	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>Q</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>B</i>	APPROVED <i>MD</i>		DE APPR. <i>#</i>		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/27/21		DATE 11-07-21		

**PURPOSE:**

REPLACE MAGNOBOND WITH PROSEAL.

**CHANGE:**

IS:

Item	Qty -241	Qty -241B	Part Number	Description
7	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
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NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2940-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

**RELEASED**  
2011-07-28  
*W*